Homework #8 (10 points)

Due, Monday, April 16

On the Sun computer called `brock.cs.unc.edu`, there is a server running at port number 19090. The "state" of this server is a single integer x. When this server receives a datagram y consisting of one to six digits and absolutely no noxious characters such as letters or innocuous character such as blanks, tabs, or nulls, it interprets the datagram as a positive integer and sends a response of the form $x{+}y{=}z$, where $x + y \equiv z \pmod{1000000}$, and updates its state to be z. For example, if the server state is 876893 and the server is sent the datagram `303001`, its response will be `876893+303001=179894`. If the server is sent an inappropriate message, *e.g.,* `R2D2`, its response will be `?R2D2`. *Note: There are no new-line characters in legal input datagrams.*

Your assignment is to write a program that will send a datagram to this server and then receive and print the server's response. For additional amusement, you might try sending several hundred requests and see how many replies you get.

The file `/unc/brock/190/s90/home8/adder.c` contains the source for the server.

Rules of engagement

You may work in teams of two. Both team members must split the work, both intellectual and grunt, equally.

Warnings

Be sure to use the function `htons`.

If the machine `brock.cs.unc.edu` crashes, `adder` will stop running. If you think `adder` has died, run `/unc/brock/190/s90/home8/addcall` to see if it can contact `adder`.

Classroom change

On Wednesday, 4 April, Comp 190 will meet in Sitterson 115.